

AMENDMENTS TO THE CLAIMS

1. (Currently amended) An isolated DNA comprising an open reading frame encoding a protein characterized by an amino acid sequence comprising a component sequence of at least 150 amino acid residues having 40% or more identity more than 55% identity with an aligned component sequence of SEQ ID NO:3, wherein said protein is a component of transcriptional gene silencing system.

2. (Currently amended) The DNA according to claim 1 comprising an open reading frame encoding a protein having the formula R1-R2-R3, wherein

- R1, R2, and R3 constitute component sequence consisting of amino acid residues independently selected from the group of the amino acid residues Gly, Ala, Val, Leu, Ile, Phe, Pro, Ser, Thr, Cys, Met, Trp, Tyr, Asn, Gln, Asp, Glu, Lys, Arg and His,
- Ra and R3 consist independently of 0 to 3000 amino acid residues;
- R2 consists of at least 150 amino acid residues; and
- R2 is at least 40% more than 55% identical to an aligned component of SEQ ID NO: 3.

3. (Original) The DNA according to claim 1 comprising an open reading frame encoding one or more SWI2/SNF2-like ATPase/helicase motifs.

4. (Original) The DNA according to claim 1 comprising an open reading frame encoding a protein having a component sequence defined by amino acids 478-490, 584-600, 617-630, 654-668, 676-690, 718-734, 776-788, 1222-1223, 1738-1749, or 1761-1770 of SEQ ID NO: 3.

5. (Original) The DNA according to claim 1, wherein the open reading frame encodes a protein characterized by the amino acid sequence of SEQ ID NO: 3, an allelic amino

acid sequence having an amino acid residue K instead of M at position 705 of SEQ ID NO: 3, or an amino acid residue D instead of E at position 1219 of SEQ ID NO: 3.

6. (Original) The DNA according to claim 1 characterized by the nucleotide sequence of SEQ ID NO: 1 or SEQ ID NO: 2.

7. (Previously presented) The DNA according to claim 1, characterized in that expression of corresponding anti-sense RNA in a cell releases silencing of a transgenic marker gene.

8. (Withdrawn) The protein encoded by the open reading frame of claim 1.

9. (Withdrawn) A method for producing DNA according to claim 1, comprising

- screening a DNA library for clones which are capable of hybridizing to a fragment of the DNA defined by SEQ ID NO: 1 or SEQ ID NO: 2, wherein said fragment has a length of at least 15 nucleotides;
- sequencing hybridizing clones;
- purifying vector DNA of clones comprising an open reading frame encoding a protein characterized by an amino acid sequence comprising a component sequence at least 150 amino acid residues having 40% or more sequence identity to SEQ ID NO: 3;
- optionally further processing the purified DNA.

10. (Withdrawn) A polymerase chain reaction wherein at least one oligonucleotide used comprises a sequence of nucleotides which represents 15 or more basepairs of SEQ ID NO: 1 or SEQ ID NO: 2.

11. (Withdrawn) The protein encoded by the open reading frame of claim 2.

12. (Withdrawn) The protein encoded by the open reading frame of claim 3.

13. (Withdrawn) The protein encoded by the open reading frame of claim 4.

14. (Withdrawn) The protein encoded by the open reading frame of claim 5.

15. (Withdrawn) The protein encoded by the open reading frame of claim 6.
16. (Withdrawn) The protein encoded by the open reading frame of claim 7.
17. (New) An RNA complementary to an mRNA transcribed from the DNA of claim 7.

18. (New) A method of releasing silencing in a plant comprising the step of expressing in the plant the RNA according to claim 17.